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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/513,966

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Tetsuo Nanno

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EXAMINER

DRODGE, JOSEPH W

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

04/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/513,966	<b>Applicant(s)</b> NANNO ET AL.	
	<b>Examiner</b> Joseph W. Drodge	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-13 and-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-13 and-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 3-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frager et al patent 2,480,845 in view of Eaton patent 2,416,294. Frager et al disclose a method of separating metal from plastic resin in small components having joined metal and plastic (the plastic forming an adhered, joined coating, see column 1, lines 37-40). Frager et al teach

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separation of plastic resin from metal using such alkali solution in an electrolytic bath, the steel forming a counter electrode, and applying a voltage over a period of time as exemplified by applying of a discrete current density (column 1, lines 38-48 and column 2, lines 25-48 concerning use of electrodes and cathodic treatment are particularly pertinent).

***Frager et al at column 1, line 53-column 2, line 7 explicitly state that making the workpiece (metal) anodic is relatively “more effective”, however that making it cathodic is also “of considerable value” when combined with mechanical treatments such as using streams or spray of water, wiping or brushing!***

Frager is silent as to level of voltage applied. As background, it is noted that the metal articles have an oxide layer retained on them which advantageously is useful in proving a measure of corrosion resistance and that ionizable potassium compounds are utilized in the alkaline bath (column 2, lines 9-19 and 37-49).

The claims differ in requiring that the applied voltage ranges between -0.6 volts and -2.0 volts relative to a standard electrode. However, Eaton concerns use of an electrolytic bath, holding an alkaline, potassium material for stripping coated substances from surfaces of metal articles, in which current density is controlled so as to induce an optimal voltage difference. Eaton indicates that at voltages beyond about + or - 2 volts, metal oxide layers are removed and also film formation results (see especially column 1, lines 5-35, column 2, lines 15-47, column 3, lines 33-50 and column 5, lines 24-70 including the Table). It would have been obvious to one of ordinary skill in the art to have optimized the voltage difference applied in the Frager process to a level of within about + or - 2 volts, so as to remove the plastic resin, without also removing the metal oxide layer or forming a film, as taught by Eaton, so as to maintain corrosion

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resistance of the metal articles being recycled to maintain their integrity and prevent deterioration.

The following is additionally taught by Frager for dependent claims: use of alkali metal (potassium) cations in the solution (clms 3 & 4), applying of direct current to electrodes, generating voltage over extended periods of time (ex. 15 minutes) (clm 12), any desired bath temperature (column 2, lines 49-52 for clm 5), applying of peeling to the metal joint (column 2, line 8 for clm 7). Treatment of metal/resin composites, joints or joined products of steel (Fe) and and phenolic applied, plastic resins are disclosed at column 1, lines 7-12 and 28-32. Eaton teaches that agitation or vibration further raises the bath current density (column 2, lines 48-52) for claim 6.

Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Germain et al patent 3,575,829 in view of Frager et al patent 2,480,845. Germain literally discloses an apparatus comprising a chemically resistant container 12 that accommodates electrolyte material or solution (column 2, lines 39-45) , contains counter electrodes 48, and coupling of electrode to power source terminals 36 by connecting members 62,64 and 24 of conductive material that may be coated with insulating oxide layer (column 3, lines 3-7 and column 4, lines 1-4) , also means for measuring current densities and voltages (column 3, lines 40-46 and 59-62, of the bath and controlling means (column 2, lines 22-25).

The claims differ in requiring that the controlling means renders the metal portion becoming cathodic. However, *Frager et al at column 1, line 53-column 2, line 7 explicitly state that making the workpiece (metal) anodic is relatively “more effective”, however that making it cathodic is also “of considerable value” when combined with mechanical treatments such as*

*using streams or spray of water, wiping or brushing! It would have been obvious for the controlling means of Germain to be effective to make the metal portion become cathodic, to effect metal separation in combination with spraying, brushing or wiping.*

Applicant's arguments filed on February 14, 2008 have been fully considered but they are not persuasive. It is argued that Frager teaches a method that includes only applying of a potential to oxide a metal, thus make it anodic. However, Frager teaches that both making the metal anodic and cathodic are both effective at removing metal and separating it from joined resin; thus teaches that both oxidation and reduction can be applied.

Regarding claim 13, it is argued that Germain teaches the undesirability of coating with an insulating oxide layer. What Germain actually teaches is that an insulating oxide layer is normally present to at least some degree, such layer causing problems only when the thickness of such layer becomes excessive.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Roy Sample, can be reached at 571-272-1376. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

April 22, 2008

/Joseph W. Drodge/  
Primary Examiner, Art Unit 1797